J. R. NAUGLE.

CUTTING TOOL.

APPLICATION FILED DEC. 8, 1919.

1,341,067. Patented May 25, 1920.

Fig. 1

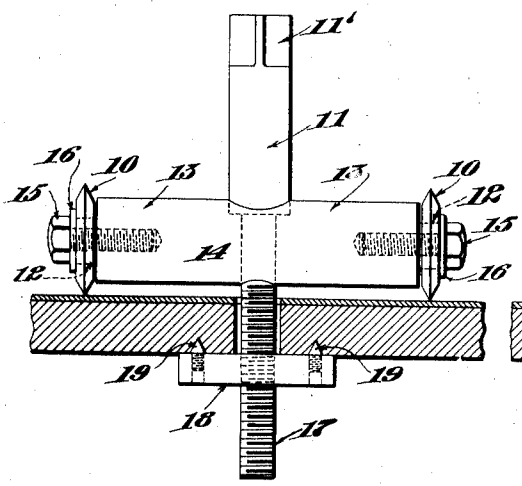


Fig. 2

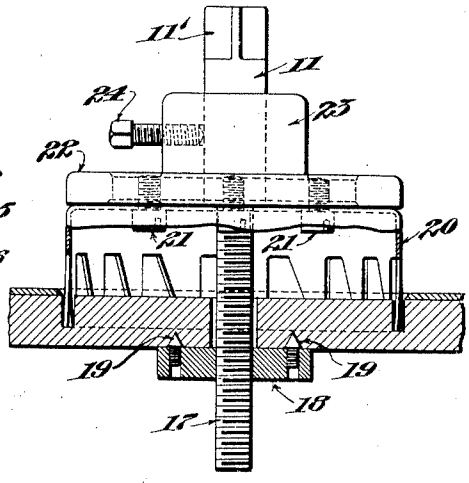


Fig. 3

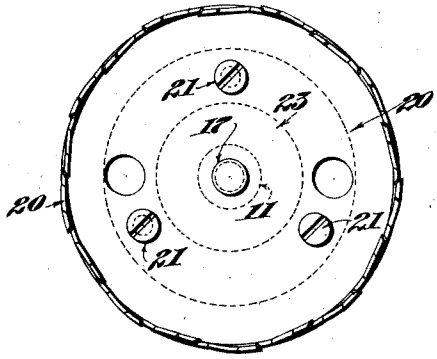


Fig. 4

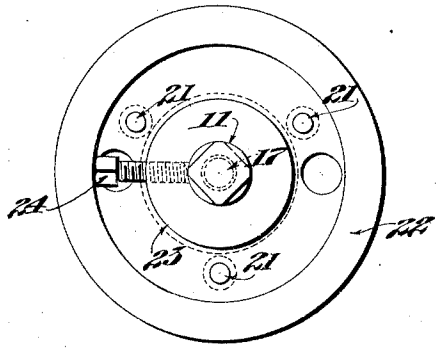
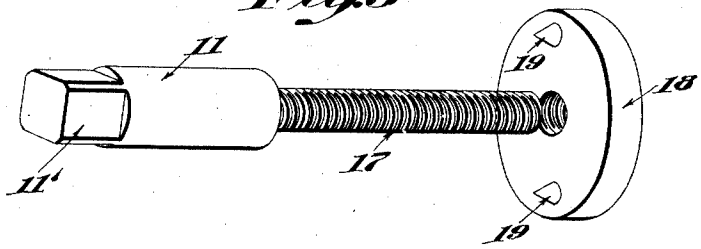


Fig. 5



Witness

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CUTTING-TOOL.

1,341,067. Specification of Letters Patent. Patented May 25, 1920.

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To all whom it may concern:

Be it known that I, JOSEPH R. NAUGLE, a citizen of the United States, residing at Roxbury, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Cutting-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an improvement in instrument hole cutting tools.

Automobiles are ordinarily provided with various instruments supported in an instrument board. Many purchasers add another instrument such as a clock or speedometer. The installation of such instruments requires the cutting of a hole or holes in the instrument board and as these are ordinarily made of sheet steel or covered with sheet steel or other metal it is a tedious and inconvenient task to perform with the ordinary hand tools usually found in a machine shop, and besides, one which requires considerable care and skill in order to produce a neat and workman like job. An instrument for cutting such holes has been put on the market and has met with considerable favor in the minds of the purchasing public, namely, the dealers in instruments. This instrument is illustrated in the application of Albert L. Barrett for an improvement in cutting tools, filed August 11, 1919, Serial No. 316,563. The Barrett tool consists of a stock having a centering pin adapted to enter a hole formed in the instrument board to receive it and having lateral arms provided with rolling cutters mounted on the ends of the arms. A practical objection to this construction of cutting tool resides in its lack of feeding means for feeding it to its work and the object of the present invention is to improve the Barrett tool by providing it with feeding means for feeding it forward as the work of cutting the hole progresses. Another object of the invention is to produce feeding means for instrument hole cutting tools. In the accompanying drawings illustrating the preferred form of the invention Figure 1 is a side elevation of the instrument hole cutting tool for cutting holes in metal, Fig. 2 is a side elevation of an instrument or cutting tool for cutting holes in wood, both being provided with the feeding means of the present invention; and Figs. 3, 4 and 5 illustrate details of construction hereinafter referred to.

The illustrated embodiment of the invention is described as follows. Two rolling cutters or cutter wheels 10 having beveled cutting edges are mounted on bearings 12 upon the ends of two laterally extended arms 13 of a supporting member 14 being held thereon by bolts 15 and washers 16. The arms 13 and the supporting member 14 are carried by a stock or support 11, one end of which is reduced in diameter and is adapted to be inserted through a hole bored in the instrument board to receive it. The other end of the stock 11 is provided with a squared head 11′ adapted to receive a wrench or brace to enable the tool to be rotated. The tool, thus far described, is the Barrett tool above referred to. The reduced end of the stock 11 in the Barrett tool was coarsely threaded to receive a wing nut and washer by which the tool was adapted to be held in place for the cutting operation, when the wing nut was screwed up to cause the tool to press against the front surface of the instrument board. According to the present invention the threaded end 17 of the stock receives a nut 18 provided on one side with two prongs 19. These prongs 19 are screwed into holes in the nut 18. The threaded end 17 of the stock 11 is provided with fine threads and the nut 18, being held from rotation by the engagement of the prongs 19 with the rear face of the instrument board, acts to draw the stock 11 toward the work so as thereby to feed the cutting wheels into the metal being cut. It has been found that with a three-eighths stock, provided with twenty-seven threads to the inch, the feed is correct when the stock is operated to cut the metal by turning it first two turns to the right and then one turn to the left, and so on. The cutting is done faster in this way and without forcing the cutting wheels with too great pressure into the material.

The present invention is adapted for use not only in connection with the cutting of metal plates but also in connection with the cutting of holes in wood, and particularly the holes in the wooden backing of the instrument board. A cutter for cutting holes in board is shown in Figs. 2, 3 and 4, wherein the cutter disk on a cutter wheel 20, is secured by bolts 21 to the flange 22 of the hub

23 mounted on the stock 11, being secured in place thereon by a set screw 24. After the hole is cut in the metal facing of the instrument board the tool is taken off and the wood cutting tool is put in place, the nut 18 screwed up and the cutting of the hole through the wood is performed by a continuous rotation of the cutter, the nut 18 operating in connection with the threaded end 17 of the stock 11 to feed the cutter forward in the wood so as thereby to make a cleanly cut hole in the wood in an expeditious manner.

Having thus described the invention what is claimed is:—

A cutting tool for cutting holes in metal, wood and the like, having a stock, a cutter mounted on the stock, a threaded end of the stock extending through a hole in the material to be cut and a threaded nut provided with means for engaging the opposite side of the work to hold the nut from rotation so that as the tool is turned to cut the hole it is fed forward into the work.

JOSEPH R. NAUGLE.